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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,870	09/13/2000	Joseph P. Coniglione	P.21.2028	7000
7590	12/05/2003		EXAMINER	
Edward A Onders VP Law & Contracts BAE Systems Aerospace Inc Advanced Systems One Hazeltine Way MS 1 32 Greenlawn, NY 11740-1606			LUGO, DAVID B	
			ART UNIT	PAPER NUMBER
			2634	
DATE MAILED: 12/05/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/659,870	CONIGLIONE, JOSEPH P.
Examiner	Art Unit	
David B. Lugo	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 November 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6,8-18 and 20-24 is/are rejected.
- 7) Claim(s) 7,19 and 25-28 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 September 2000 is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) Interview Summary (PTO-413) Paper No(s). _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 8, in line 5 of the first paragraph, "antenna 24" should be -- antenna 24 or 26,--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5, 6, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 5 and 17 both recite the limitation "the converter in line 4 of each claim. There is insufficient antecedent basis for this limitation in the claim. It is noted that claims 6 and 18 should reflect any changes made to claims 5 and 17, as both claims 6 and 18 recite a quadrature demodulator coupled to an input of said converter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 13 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Palmer et al. U.S. Patent 6,295,461.

7. Regarding claim 13, Palmer et al. teach a multi-mode receiver in Fig. 2 comprising a front end stage having a preselector comprising a RF filter 15 coupled to antenna 12, amplifier stages 16, 17, and a mixer 18 for producing an IF signal which is provided to two channels, the first channel comprising a narrow band IF filter 26 for passing first IF signals corresponding to the desired narrowband signals while rejected undesired interfering signals, the second channel comprising a wideband IF filter 24 for passing the desired wideband signals, and a processor means (demodulator 36) coupled to the first and second channels for demodulating and processing the first and second IF signals (col. 5, line 45 to col. 6, line 14).

8. Regarding claim 16, the second channel further includes an amplifier 32 and limiter 34 for amplifying and limiting spread spectrum modulated signals (col. 6, lines 38-47).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over King U.S. Patent 4,646,097 in view of Palmer et al.

11. Regarding claims 1 and 13, King discloses a transponder receiver in Fig. 1 for receiving wideband and narrowband interrogation signals comprising a receiver front end 16 inherently connected to an antenna, and a mixer 18 connected to the receiver front end for translating the

RF input signal to IF. The receiver further comprises a first IF channel (processing path 24) coupled to an output of the front end stage including a narrowband IF filter 48 for filtering the IF signal and coupled to a processor for generating logic pulses from the narrowband filtered IF signal, and a second channel (processing path 22) coupled to an output of the front end stage including wideband IF filter 26 for filtering the IF signal and coupled to a processor for generating logic pulses from the wideband filtered IF signal, as shown in Fig. 1.

12. King does not expressly show that the receiver front end 16 amplifies the signals input by the antenna and includes a wideband RF filter.

13. Palmer et al. discloses a typical RF front end 10 comprising a wideband RF filter 15 and amplifier stages 16, 17 for amplifying the received signals (see Fig. 2).

14. It would have been obvious to one of ordinary skill in the art to provide RF filtering and amplification as taught by Palmer et al. in the receiver front end of King to reject adjacent extraneous frequencies outside the bandwidth of the received signal and to provide the signal at a desired amplitude level, as stated by Palmer et al. in column 6, lines 4-9.

15. Claims 1-6, 8-18, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over GEC-Marconi Proposal 3-6057 (submitted by Applicant) in view of King.

16. Regarding claims 1 and 13, Proposal 3-6057, hereinafter "the Proposal", discloses a multi-mode transponder receiver for detecting wide and narrow bandwidth signals (Figure 2-9) comprising a front end having an antenna input receiving the desired signals, a preselector for amplifying the signals and including a wide band RF filter, and a mixer for converting the signals to an IF frequency; a first IF channel coupled to an output of the front end stage including a narrowband filter F3 for producing narrow bandwidth signals; a second IF channel coupled to

an output of the front end stage for producing the wide bandwidth signals; and inherently comprises processor means coupled to the first and second IF channels for demodulating and processing the first and second IF signals.

17. The Proposal does not disclose that the second IF channel comprises a wide band IF filter for passing wide bandwidth interrogation mode signals.

18. However, it is well known in the art to utilize a filter to isolate a desired frequency band. For instance, King discloses a wideband IF filter 26 coupled to an output of a mixer in a receiver front end for isolating received wideband signals.

19. It would have been obvious to one of ordinary skill in the art to use a wideband filter as taught by King to filter the wideband signals in the second IF channel of the Proposal in order to remove any unwanted noise and interference included in the signal output from the mixer.

20. Regarding claims 2 and 14, Figure 2-9 further shows that the first IF channel includes means for amplifying PAM (MODES 1, 2, 3/A, 4, C) interrogation signals.

21. Regarding claims 3 and 15, Figure 2-9 further shows that the first IF channel includes means for amplifying and limiting PSK (MODE S) interrogation signals.

22. Regarding claims 4 and 16, Figure 2-9 further shows an amplifier A8 for providing the spread spectrum modulated (MODE 5) interrogation signals.

23. Regarding claims 5, 6, 17 and 18, the Proposal further describes in the first two lines of page 2-27 that the Mode 5 filtered output is quantized, digitized and quadrature demodulated, and then applied to a bank of digital matched filters.

24. Regarding claims 8 and 20, the last sentence of page 2-17 of the Proposal states that the preselector's 3-dB bandwidth is 18 MHz, which is considered to be about 20 MHz.

25. Regarding claims 9 and 21, the wide band RF filter of the preselector is set at 1030 MHz, as shown in Figure 2-12.

26. Regarding claims 10 and 22, as shown in Figure 2-12, the wideband RF filter has about 65 dB rejection for RF signals at 1008 MHz and at 1052 MHz.

27. Regarding claims 11, 12, 23 and 24, lines 2-3 of page 2-19 state that the narrowband IF filter F3 has a 3-dB bandwidth of about 7.5 MHz and a rejection level to the nearest MIDS frequency (i.e. 1008 MHz and 1052 MHz) of 80 dB, which is considered to be about 85 dB.

Allowable Subject Matter

28. Claims 7, 19 and 25-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Wood et al. U.S. Patent 5,471,509 discloses a universal matched filter for reception of various interrogation signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David B. Lugo** whose telephone number is (703) 305-0954.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

dbl
11/23/03


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PRIMARY EXAMINER